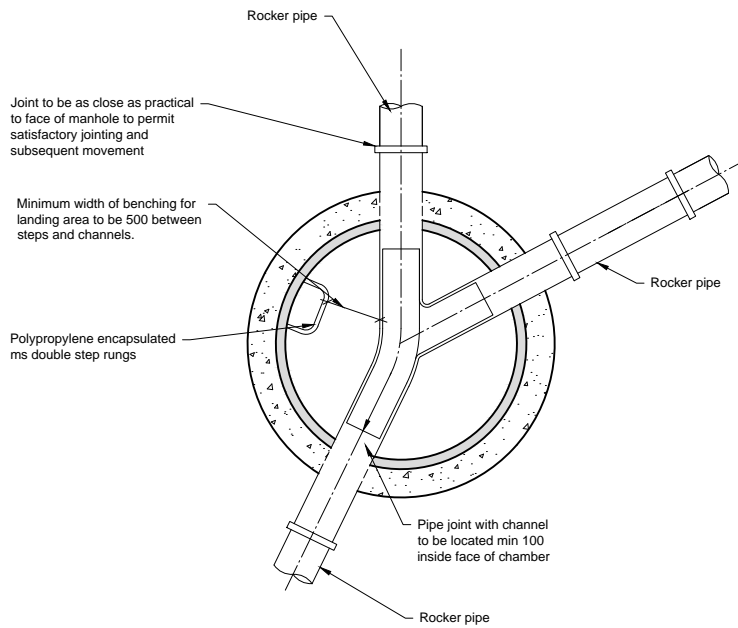


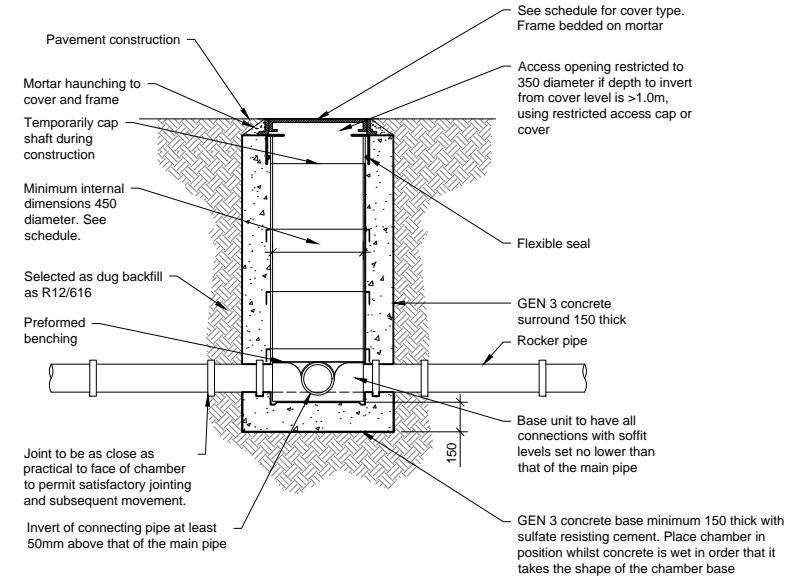
TYPE 2 MANHOLE - SECTION



TYPE 2 MANHOLE - PLAN

DEPTH TO SOFFIT: 1.35m to 3.0m

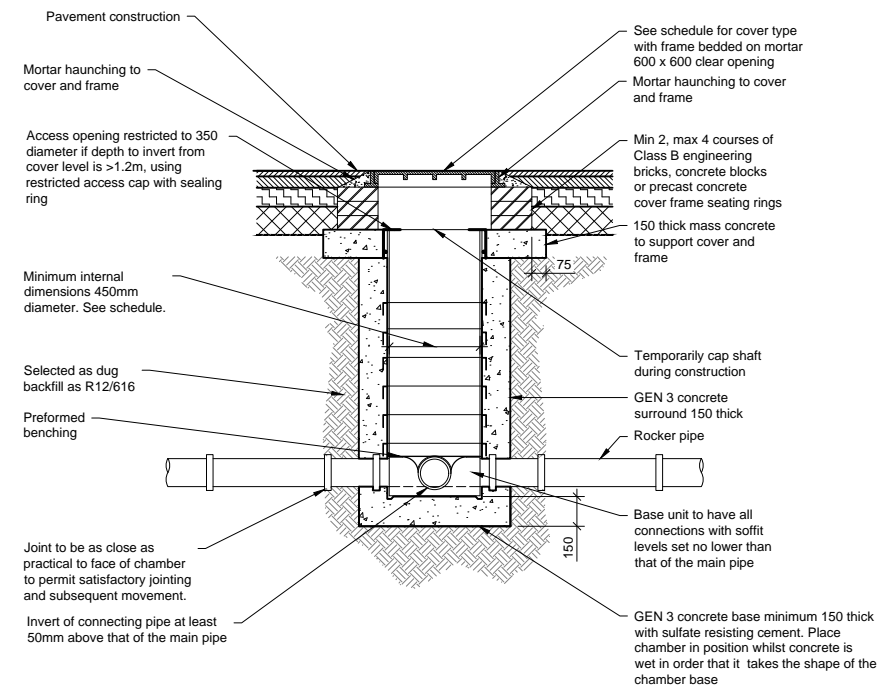
TYPICAL DETAIL. SEE SCHEDULE FOR DIMENSIONS AND GA FOR NUMBER OF CONNECTING PIPES.



TYPE 3 PLASTIC INSPECTION CHAMBER

FOR 450 DIAMETER CHAMBERS IN :-

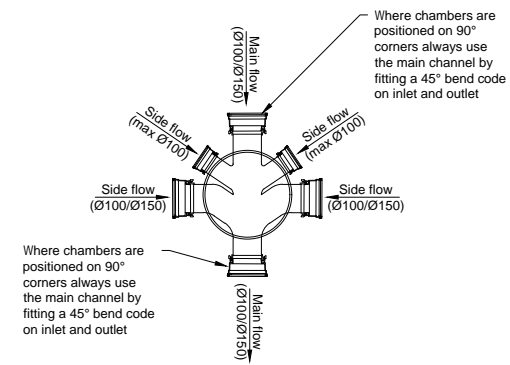
- SOFT LANDSCAPING, PEDESTRIAN (A15) AREAS UP TO 3.0m DEEP
- DOMESTIC DRIVEWAYS (B125) AREAS UP TO 1.0m DEEP



TYPE 3 PLASTIC INSPECTION CHAMBER

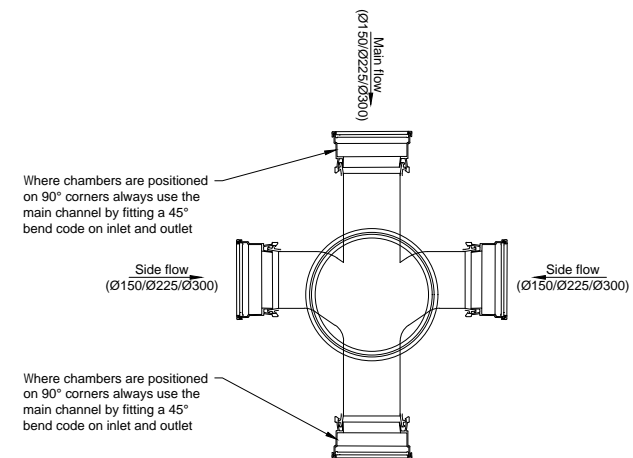
FOR ALL 600 DIAMETER CHAMBERS FOR 450 DIAMETER CHAMBERS IN :-

- DOMESTIC DRIVEWAYS (B125) AREAS FROM TO 1.0m TO 3.0m DEEP
- AREAS SUBJECT TO VEHICLE LOADING (D400) UP TO 3.0m DEEP



Ø450 WAVIN PPIC PLAN

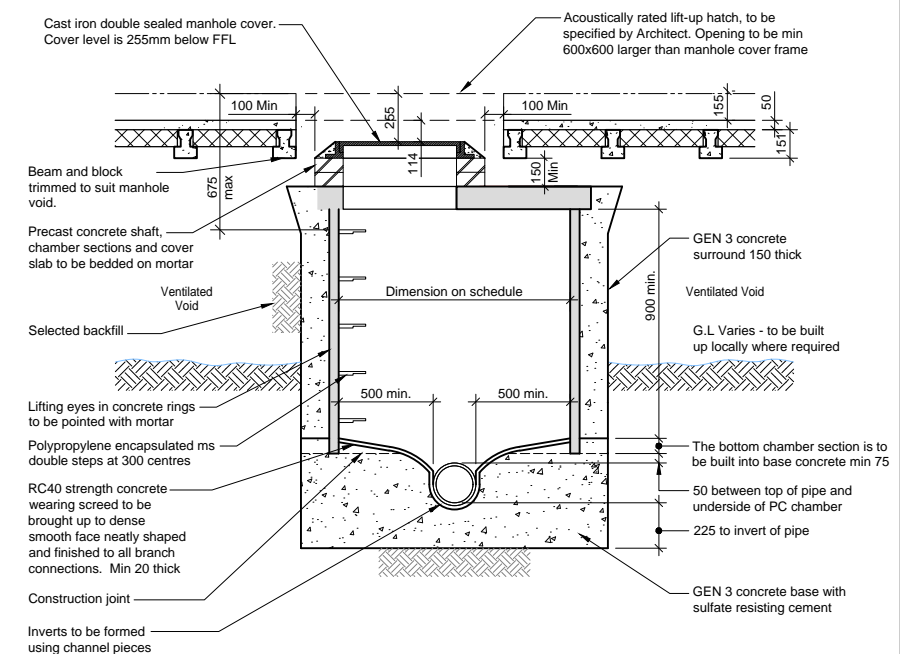
Ø150 MAIN CHANNEL, MAX 2 NO. (Ø100 & Ø150)
SIDE CONNECTIONS ON EACH SIDE
(50mm step height for all branch connections)



Ø600 WAVIN PPIC PLAN

Ø300 MAIN CHANNEL, MAX 1 NO. Ø300 SIDE CONNECTION ON EACH SIDE
(30mm step height for all branch connections)

PPIC PLAN DETAILS



INTERNAL MANHOLE IN BLOCK B BEAM AND BLOCK

NOTES :

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3. Health & Safety : All specific drawing notes are to be read in conjunction with the project "Information Pack" and "Site Rules".
4. For general notes refer to Drawing No. 29100 / GN02.

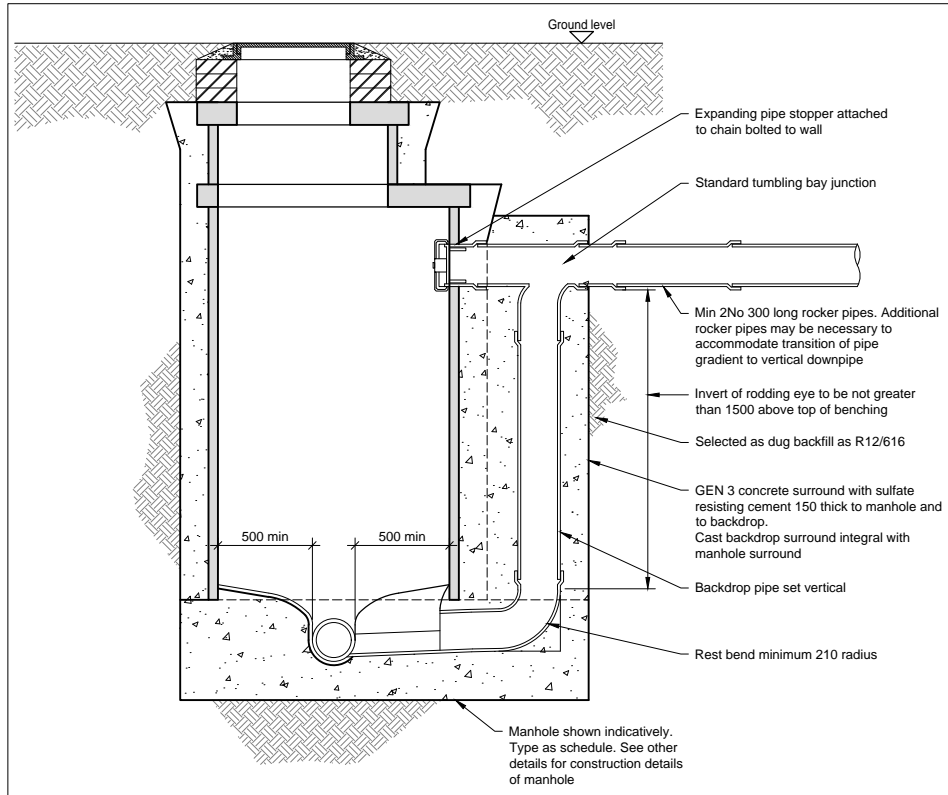
P01	16.02.21	AC	KB	Issued for Information
Rev	Date	Drawn	Eng	Amendment

LIDDELL ROAD - PHASE 2

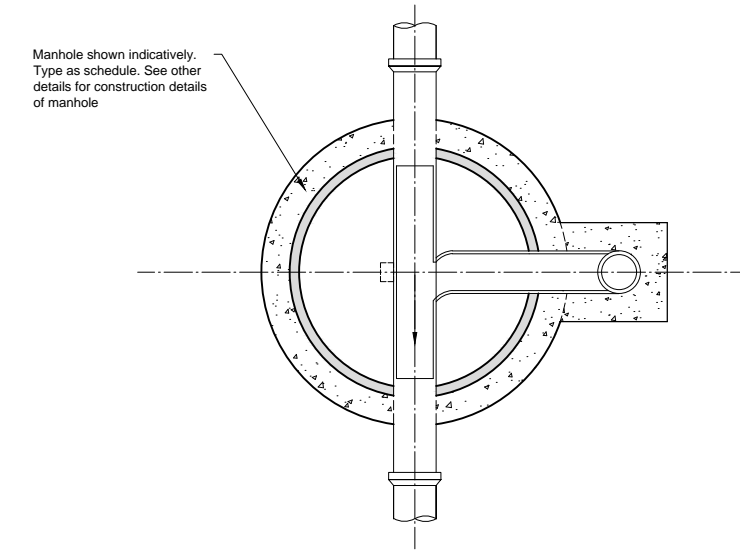
BELOW GROUND DRAINAGE DETAILS SHEET 1

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

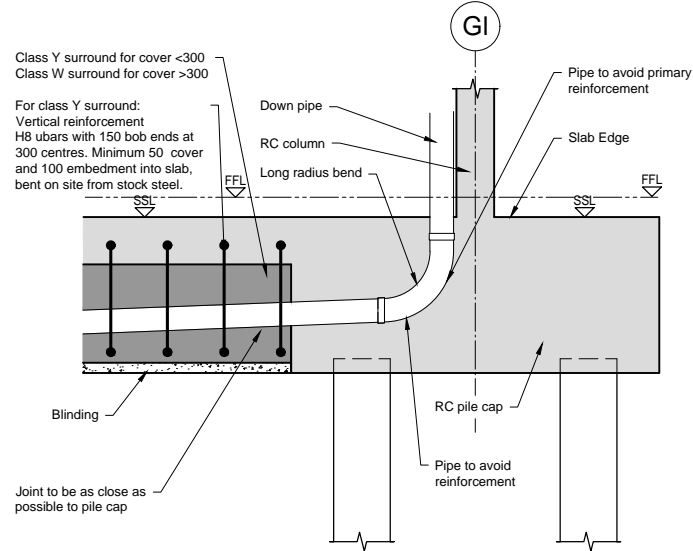
Drawn	AH	Eng	KB
Scales	1:20 at A1	1:40 at A3	
Drawing No	29100 / 6101	Rev	P01
Doc Ref.	29100-PAM-ZZ-XX-DR-C-6101		



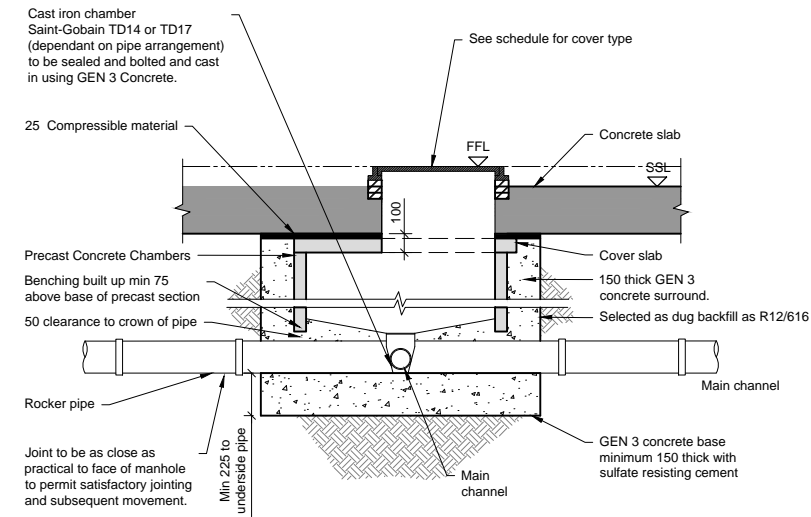
MANHOLE WITH VERTICAL BACKDROP - SECTION
General construction similar to conventional manhole



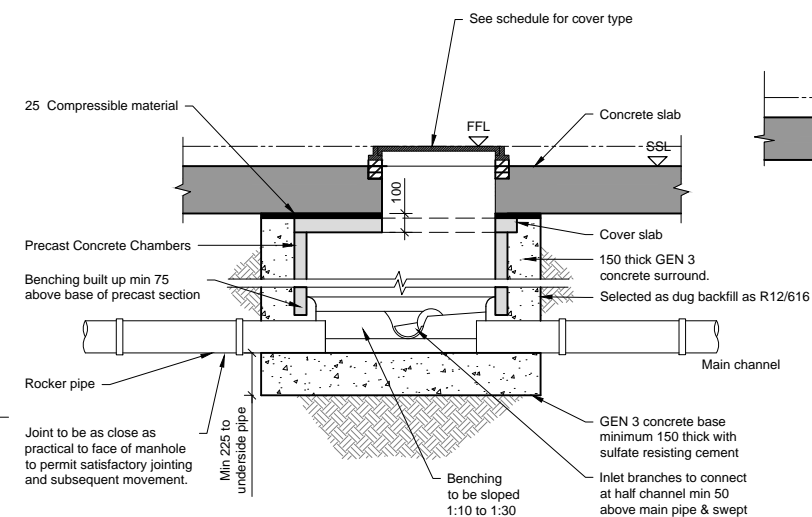
MANHOLE BACKDROP - PLAN



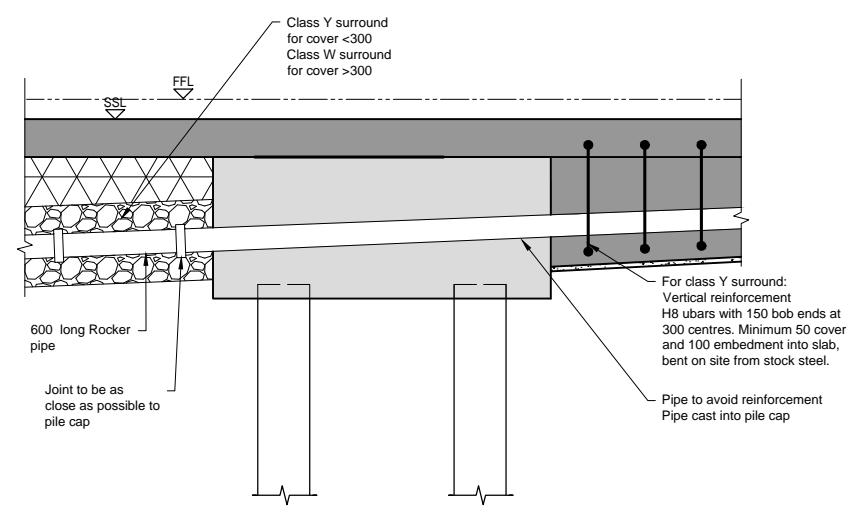
PIPE THROUGH PILE CAP DETAIL



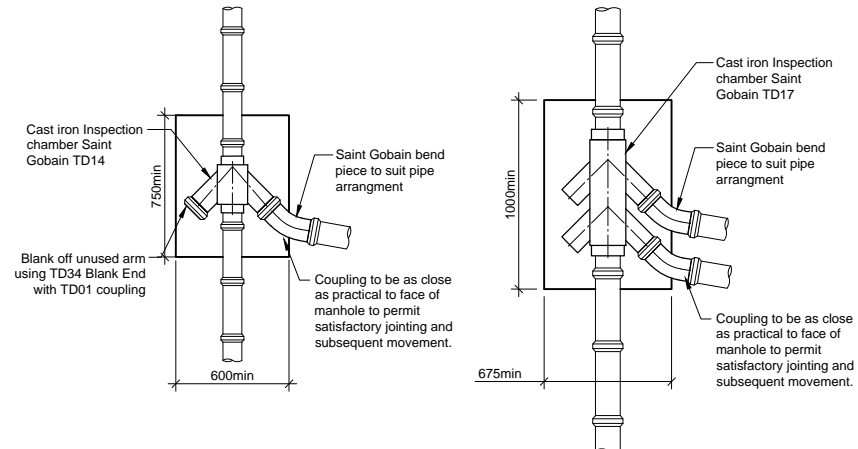
PCC RECTANGULAR INSPECTION CHAMBER - INTERNAL WITH SEALED ACCESS UNIT
REFER TO MANHOLE SCHEDULE FOR SIZE & INVERT TYPICAL DETAIL. SEE SCHEDULE FOR DIMENSIONS AND GA FOR NUMBER OF CONNECTING PIPES.



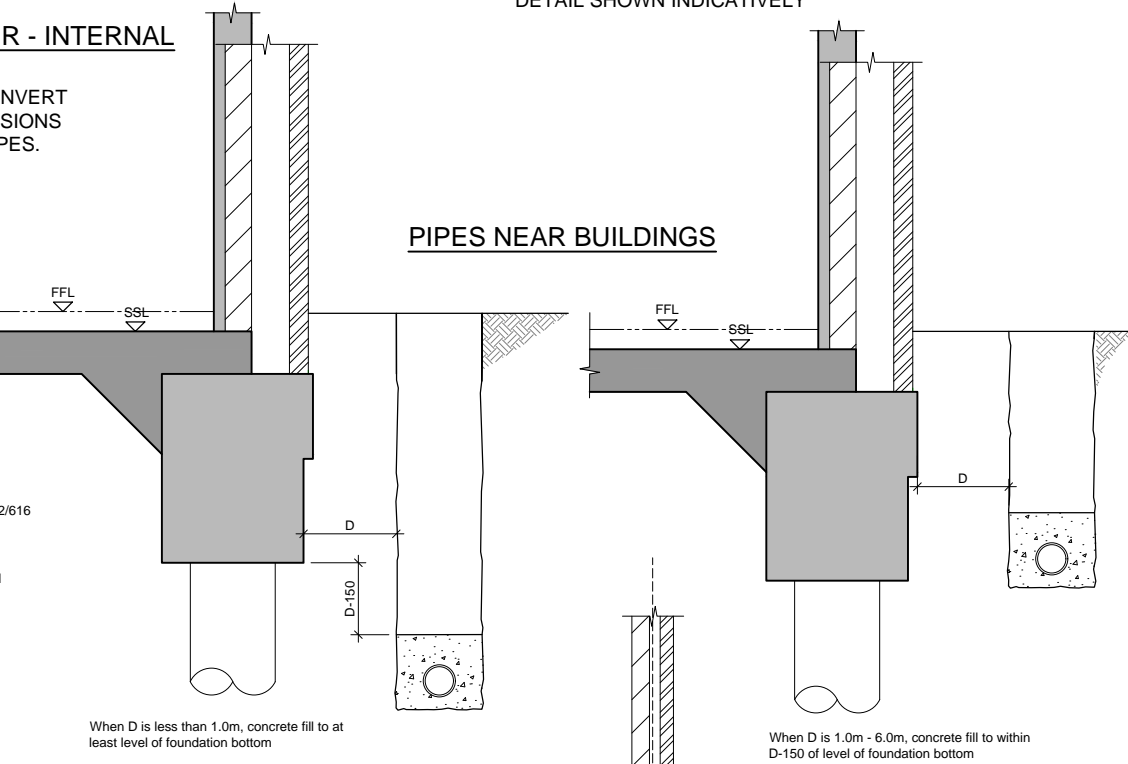
PCC RECTANGULAR INSPECTION CHAMBER - INTERNAL
REFER TO MANHOLE SCHEDULE FOR SIZE & INVERT TYPICAL DETAIL. SEE SCHEDULE FOR DIMENSIONS AND GA FOR NUMBER OF CONNECTING PIPES.



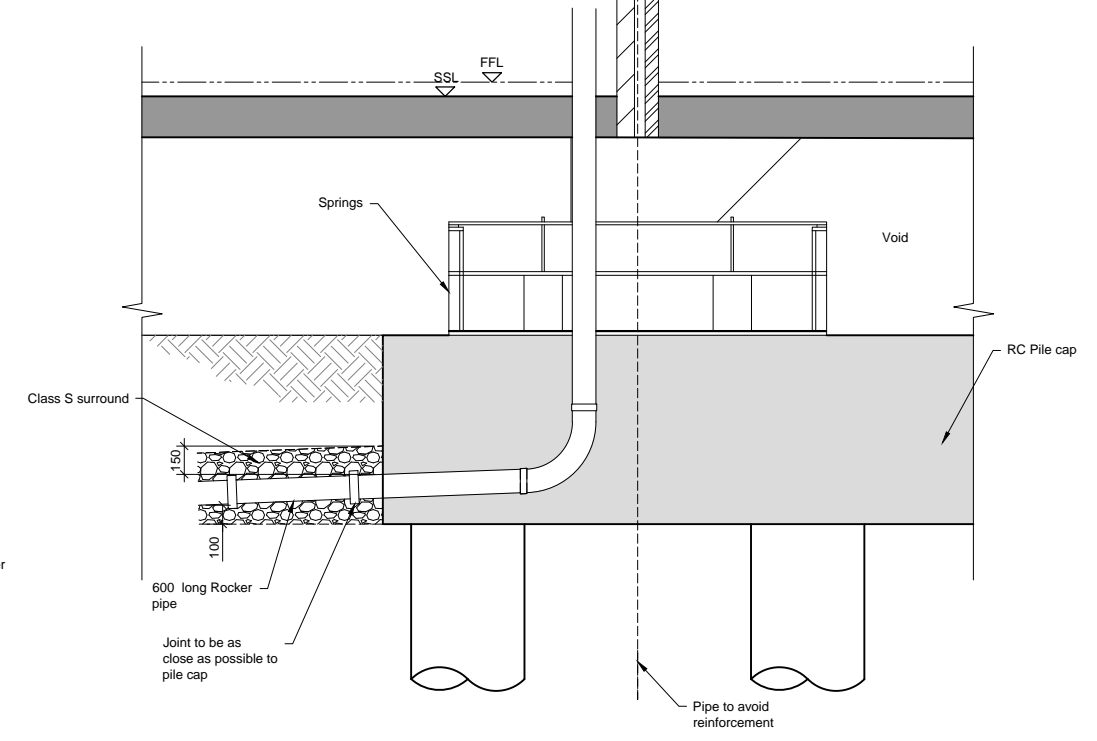
PIPE CAST INTO PILE CAP DETAIL



INTERNAL MANHOLE ARRANGEMENT WITH SEALED ACCESS UNITS
DETAIL SHOWN INDICATIVELY



PIPES NEAR BUILDINGS



PIPE THROUGH PILE CAP DETAIL - BLOCK B

- NOTES :
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 3. Health & Safety : All specific drawing notes are to be read in conjunction with the project "Information Pack" and "Site Rules".
 4. For general notes refer to Drawing No. 29100 / GN02.

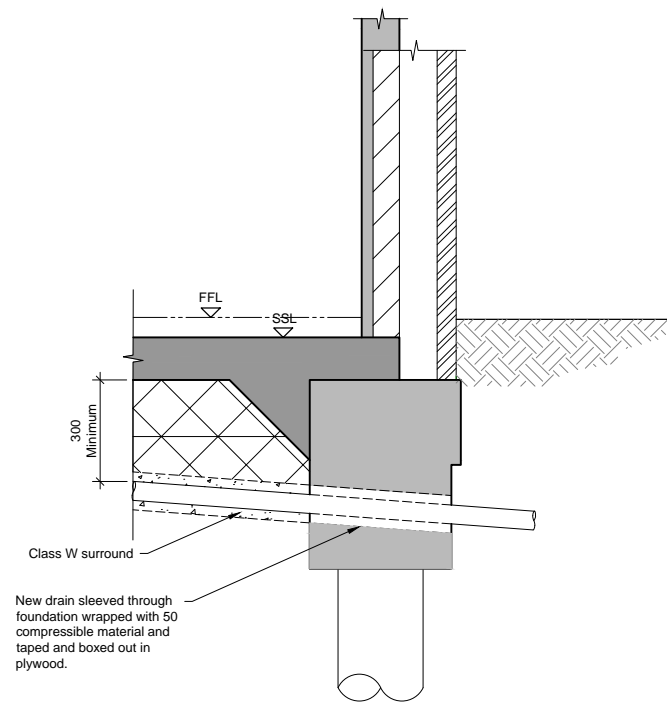
P01	16.02.21	AC	KB	Issued for Information
Rev	Date	Drawn	Eng	Amendment

LIDDELL ROAD - PHASE 2

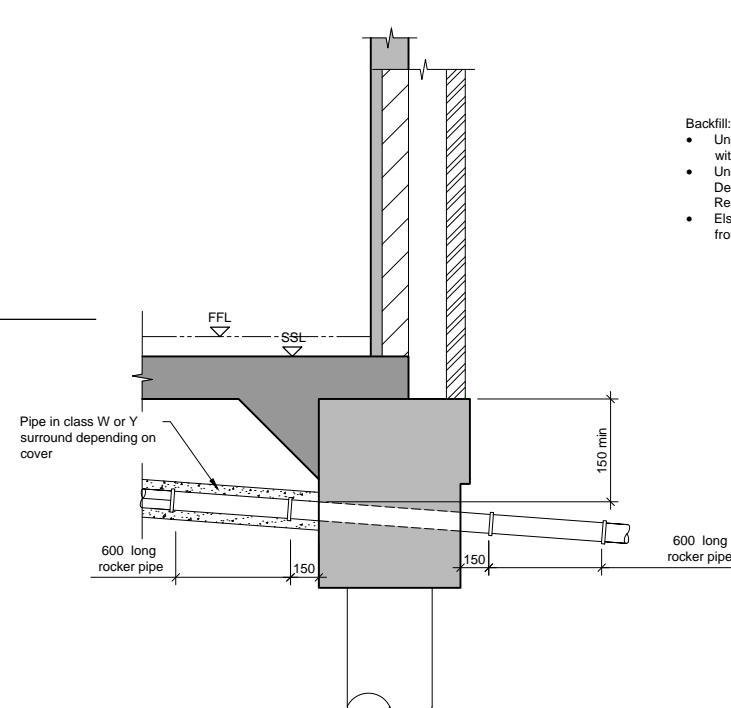
BELOW GROUND DRAINAGE DETAILS SHEET 2

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

Drawn	AH	Eng	KB
Scales	1:20 at A1	1:40 at A3	
Drawing No	29100 / 6102	Rev	P01
Doc Ref.	29100-PAM-ZZ-XX-DR-C-6102		

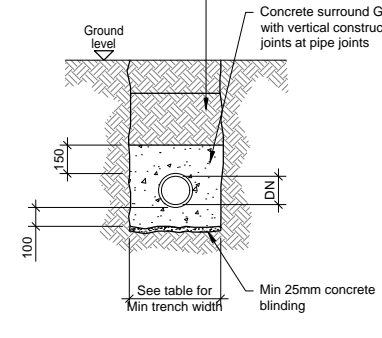


DRAIN SLEEVED THROUGH FOUNDATION

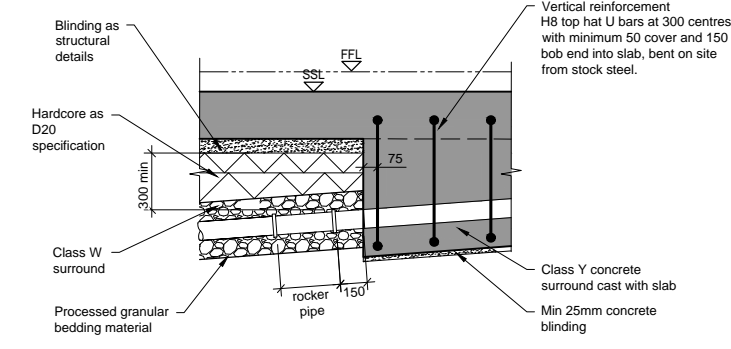


DRAIN CAST INTO FOUNDATION

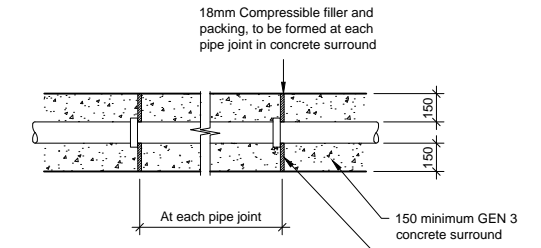
- Backfill:**
- Under private roads and pavements; with Type 1 granular sub-base material
 - Under public roads and pavements; to Dept of Transport 'Specification for the Reinstatement of Openings in Highways'
 - Elsewhere; with material excavated from trench.



**CLASS Z SURROUND
COMPLETE CONCRETE SURROUND**



TYPICAL DETAIL FOR PIPELINES UNDER SLABS: CLASS Y AND W SURROUND



**CLASS Z SURROUND
FLEXIBLE JOINTS IN CONCRETE SURROUND**

TABLE 1

DN	Minimum trench width (OD + x)		
	Supported trench	Unsupported trench	
		# > 60°	# < 60°
less 225	600	600	600
225 to 350	800	800	800
350 to 700	OD + 700	OD + 700	OD + 400
700 to 1200	OD + 850	OD + 850	
greater 1200	OD + 1000	OD + 1000	OD + 400

In the values OD + x, x/2 equals the minimum working space between the pipe and the trench wall or support, where:
OD is external diameter.
is angle of unsupported trench side measured to the horizontal.

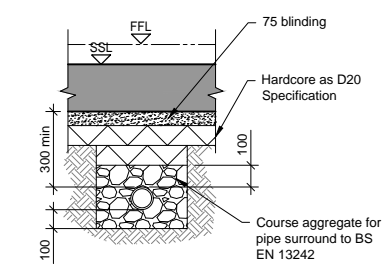
MINIMUM TRENCH WIDTH IN RELATION TO NORMAL SIZE DN

TABLE 2

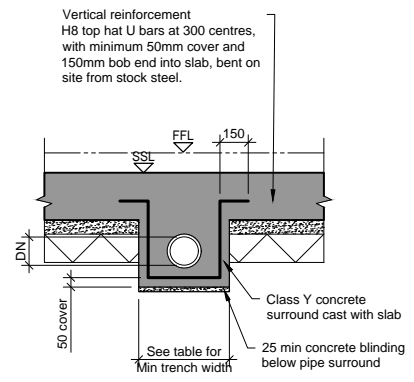
Trench depth	Minimum trench width
less 1000	As Table 1
1000 to 1750	800
1750 to 4000	900
greater 4000	1000

The minimum trench width shall be the greater of the values taken from tables 1 & 2.

MINIMUM TRENCH WIDTH IN RELATION TO TRENCH DEPTH

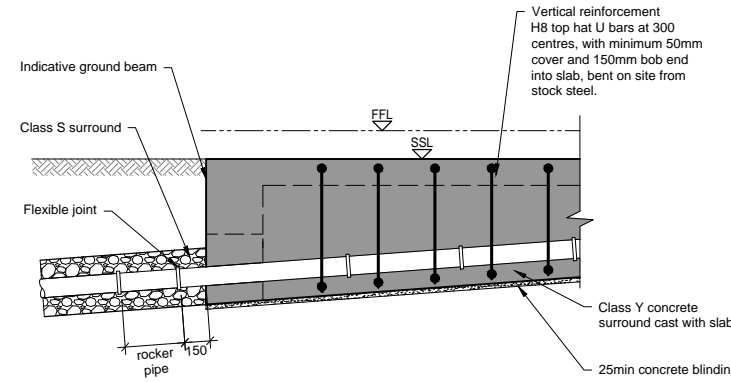


**CLASS W SURROUND
FOR PIPES WITH CROWN >300 UNDER BUILDING**

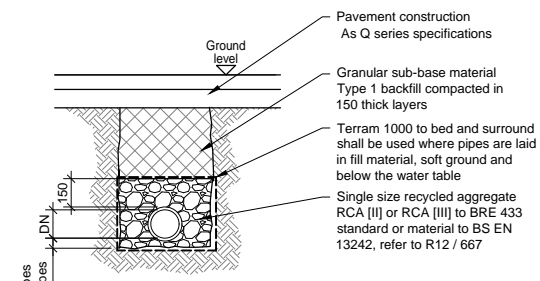


**CLASS Y SURROUND
FOR PIPES WITH CROWN < 300 UNDER BUILDING**

For plastic pipes care is to be taken in placing concrete to avoid deformation or displacement of pipe.

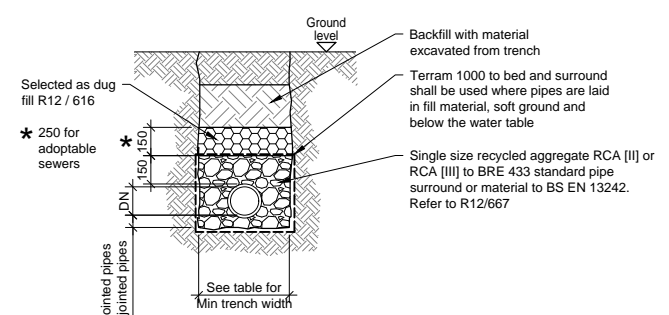


TYPICAL DETAIL FOR PIPELINES UNDER SLABS: CLASS Y AND W SURROUND



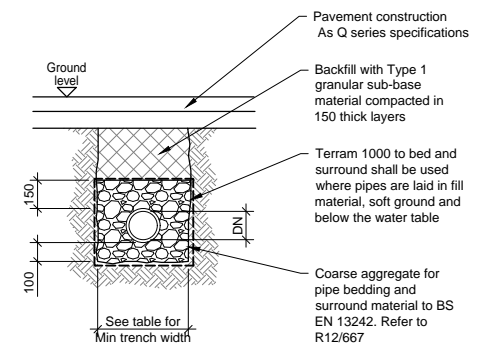
**CLASS S SURROUND
RECYCLED AGGREGATE GRANULAR SURROUND & BACKFILL FOR AREAS SUBJECT TO VEHICLE LOADING**

For clay pipes only



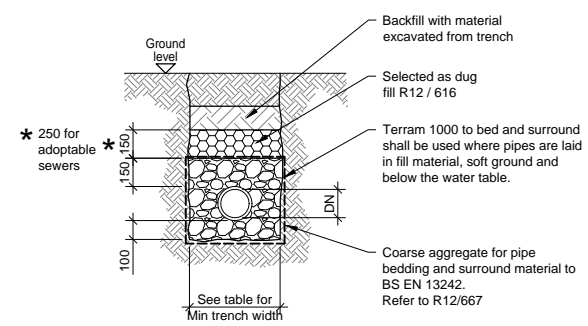
**CLASS S SURROUND
RECYCLED AGGREGATE GRANULAR SURROUND & BACKFILL FOR SOFT OR HARD LANDSCAPING AREAS NOT SUBJECT TO VEHICLE LOADING**

For clay pipes only



**CLASS S SURROUND
GRANULAR SURROUND & BACKFILL FOR AREAS SUBJECT TO VEHICLE LOADING**

Suitable for all pipes



**CLASS S SURROUND
GRANULAR SURROUND & BACKFILL FOR SOFT OR HARD LANDSCAPING AREAS NOT SUBJECT TO VEHICLE LOADING**

Suitable for all pipes

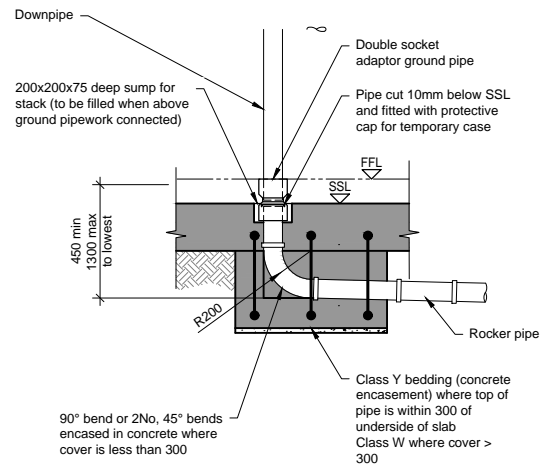
- NOTES :**
1. This drawing is to be read in conjunction with all relevant Architect's, Engineer's and specialists' drawings and specifications.
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 4. For general notes refer to Drawing No. 29100 / GN02.

Rev	Date	Drawn	Eng	Amendment
P01	16.02.21	AC	KB	Issued for Information

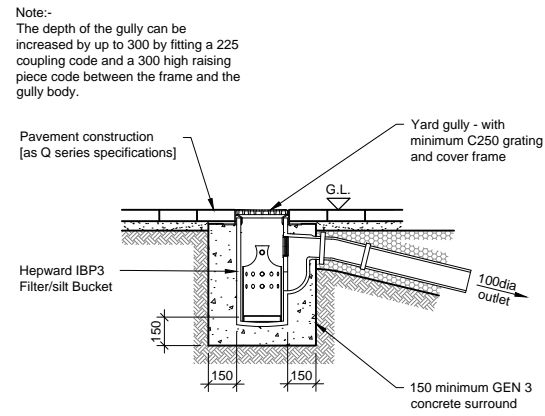
**LIDDELL ROAD - PHASE 2
BELOW GROUND DRAINAGE
DETAILS
SHEET 3**

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

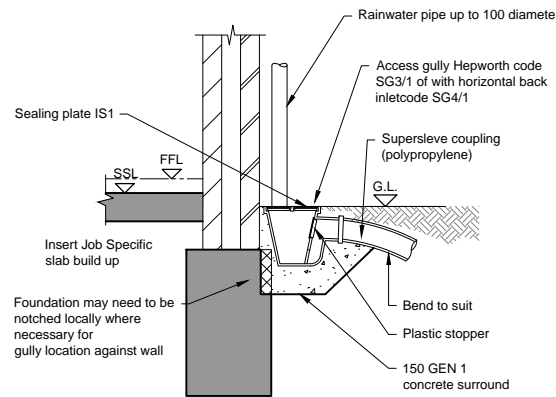
Drawn	AH	Eng	KB
Scales	1:20 at A1	1:40 at A3	
Drawing No	29100 / 6103	Rev	P01
Doc Ref.	29100-PAM-ZZ-XX-DR-C-6103		



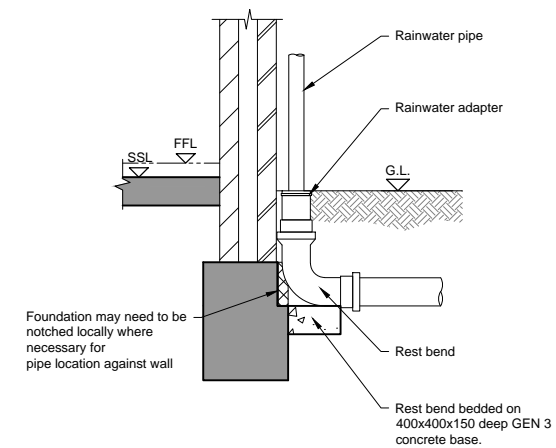
TYPICAL FOUL OR RAINWATER STACK DETAIL



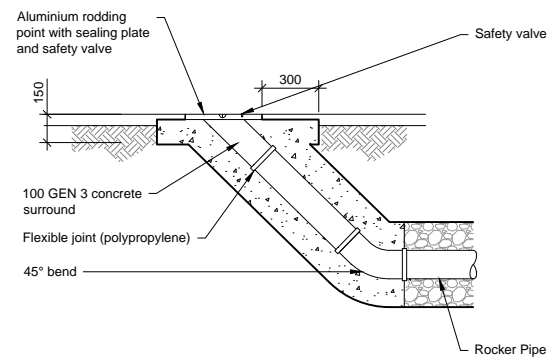
YARD GULLY



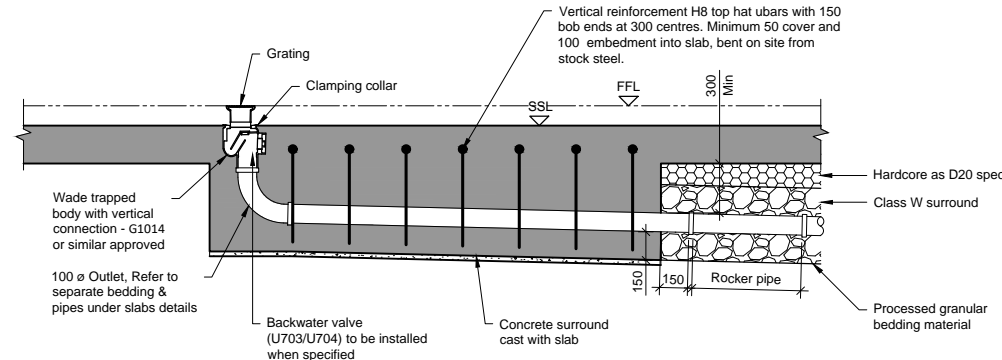
RAINWATER ACCESS GULLY CONNECTION



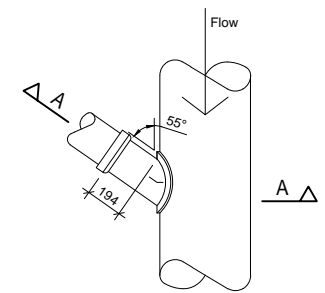
RAINWATER DOWN PIPE TO DRAIN (SURFACE WATER SYSTEM)



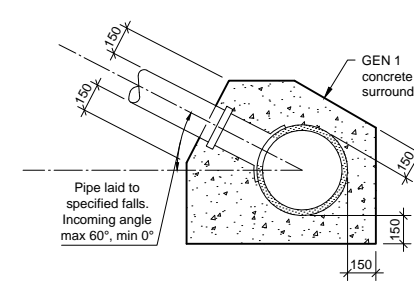
RODDING EYE



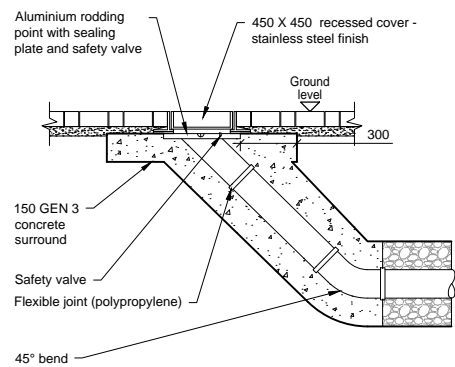
INDICATIVE INTERNAL FLOOR GULLY



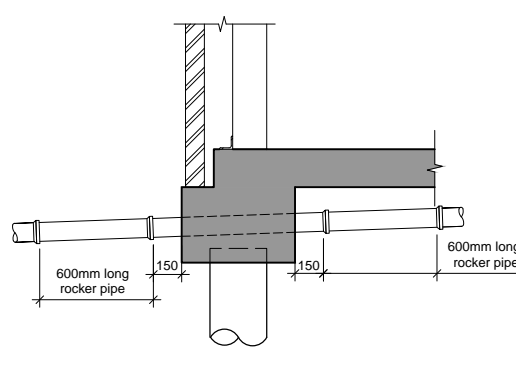
SADDLE CONNECTION - PLAN VIEW



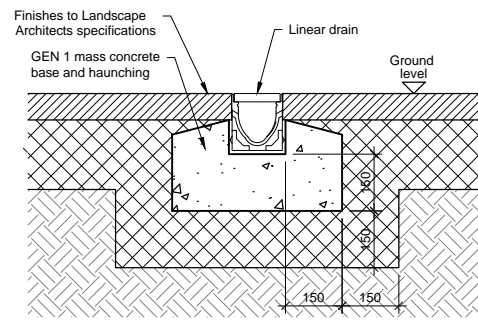
SADDLE CONNECTION SECTION A-A SCALE 1:20



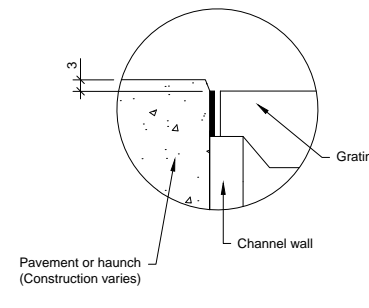
RECESSED RODDING EYE



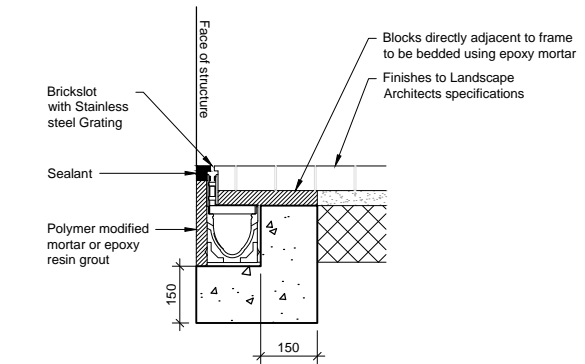
DRAIN CAST INTO FOUNDATION IN BLOCK B BEAM AND BLOCK



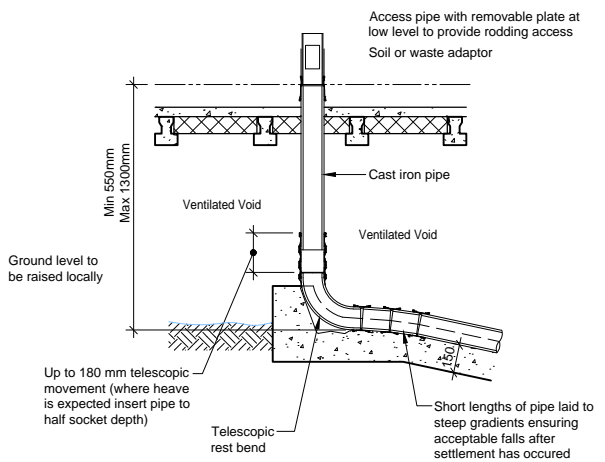
CHANNEL DRAIN DETAIL SCALE 1:10



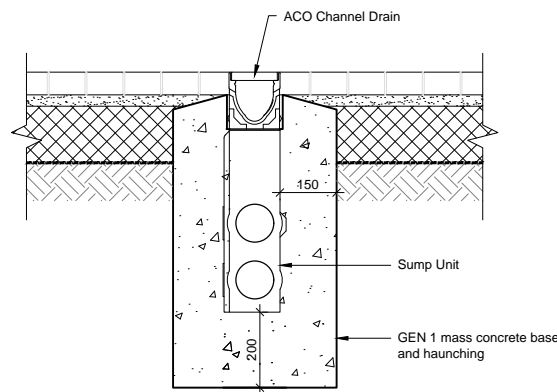
DETAIL - A



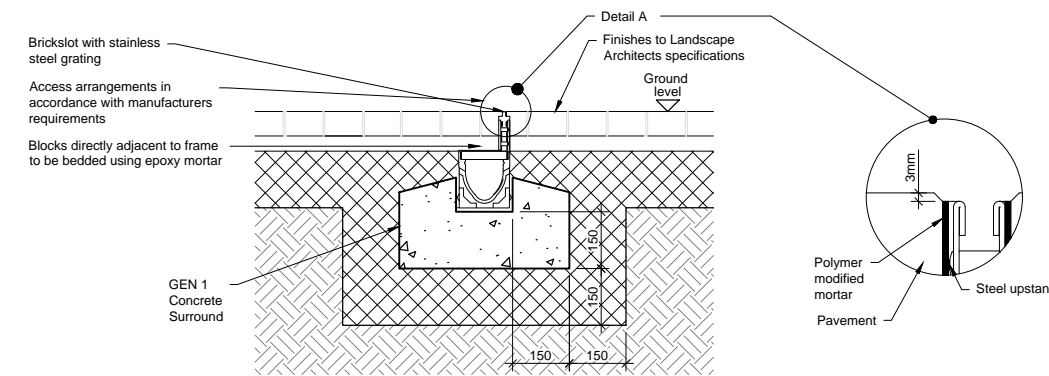
LINEAR SLOT DRAIN AT THRESHOLD DETAIL SCALE 1:10



PIPE PENETRATING GROUND FLOOR BEAM & BLOCK B



SUMP UNIT CHANNEL DRAIN DETAIL (ACO M100D UNIVERSAL SUMP) SCALE 1:10



LINEAR SLOT DRAIN DETAIL SCALE 1:10

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 4. For general notes refer to Drawing No. 29100 / GN02.

P01	16.02.21	AC	KB	Issued for Information
Rev	Date	Drawn	Eng	Amendment

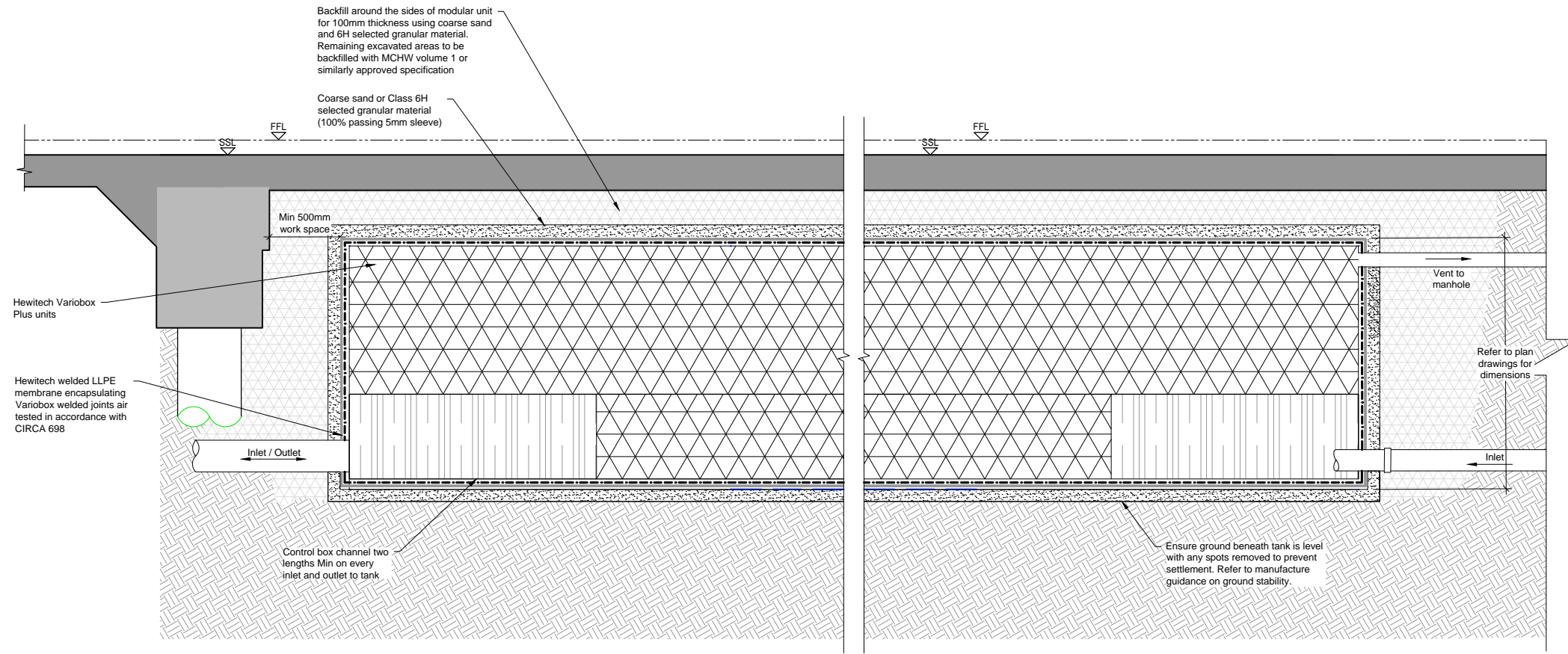
LIDDELL ROAD - PHASE 2
BELOW GROUND DRAINAGE DETAILS SHEET 4

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

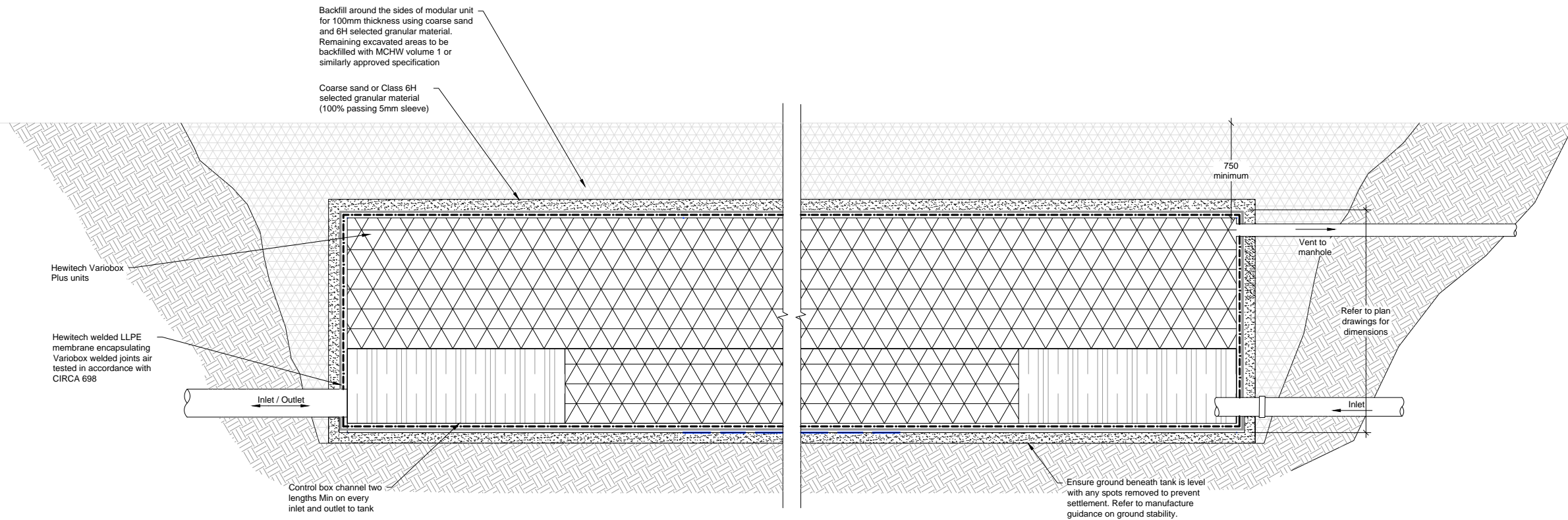
Drawn	AH	Eng	KB
Scales	1:20 at A1	1:40 at A3	
Drawing No	29100 / 6104	Rev	P01
Doc Ref.	29100-PAM-ZZ-XX-DR-C-6104		

NOTES :

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4. For general notes refer to Drawing No. 29100 / GN02.



MODULAR ATTENUATION TANK DETAILS - BELOW SLAB
(REFER TO HEWITECH SPECIFICATION FOR FULL DETAILS)



MODULAR ATTENUATION TANK DETAILS - EXTERNAL
(REFER TO HEWITECH SPECIFICATION FOR FULL DETAILS)

P01	16.02.21	AC	KB	Issued for Information
Rev	Date	Drawn	Eng	Amendment

LIDDELL ROAD - PHASE 2
BELOW GROUND DRAINAGE
DETAILS
SHEET 5

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

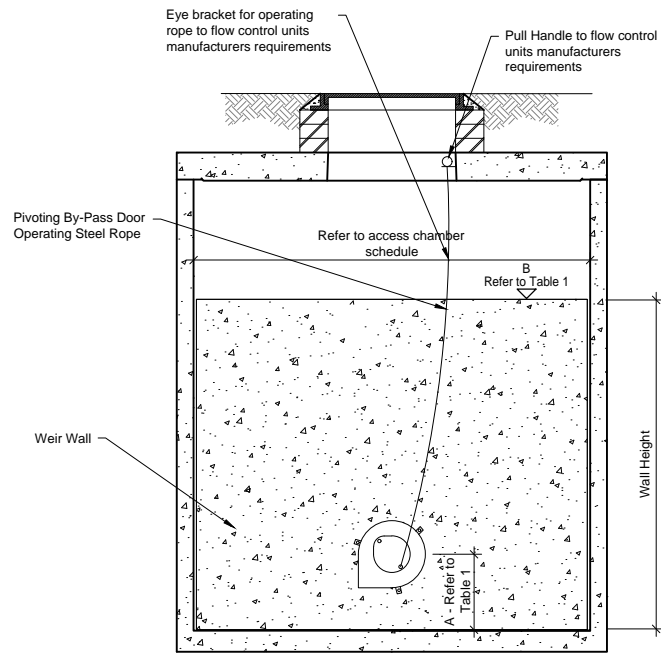
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Scales	1:20 at A1	1:40 at A3	
Drawing No	29100 / 6105	Rev	P01
Doc Ref.	29100-PAM-ZZ-XX-DR-C-6105		

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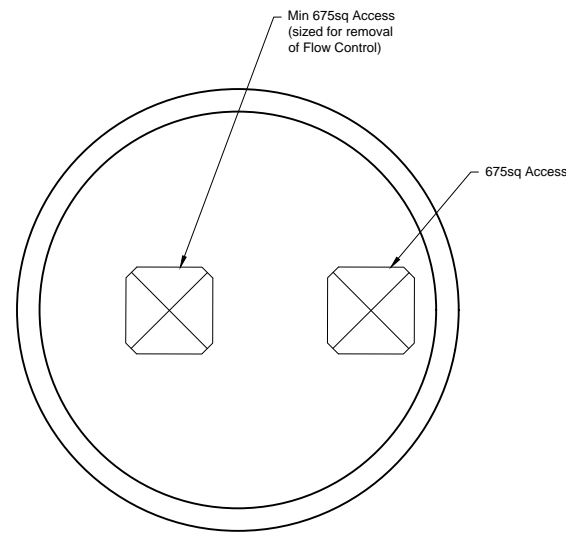
Consulting Engineers
37 Allred Place
London
WC1E 7DP
020 7631 5128
mail@pricemyers.com
www.pricemyers.com

NOTES :

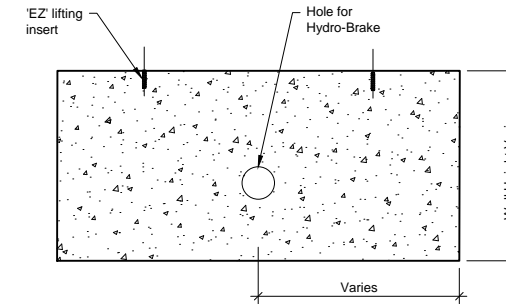
1. This drawing is to be read in conjunction with all relevant Architect's, Engineer's and specialists' drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check that this drawing has been printed to the intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
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4. For general notes refer to Drawing No. 29100 / GN02.



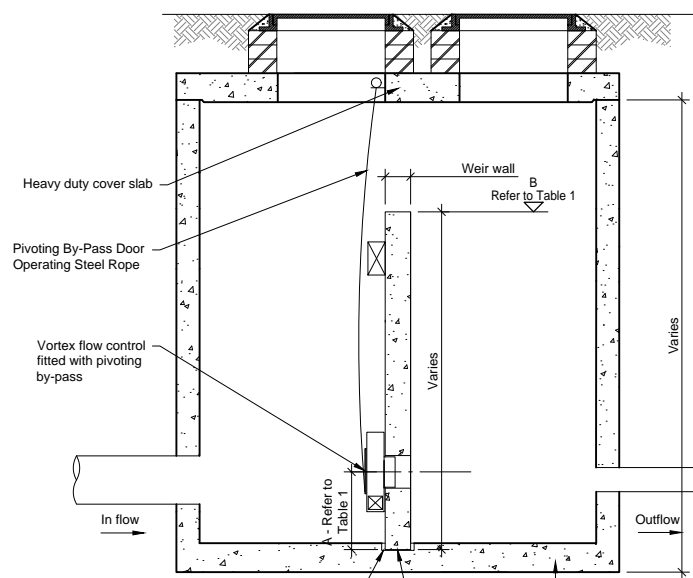
SECTION A-A



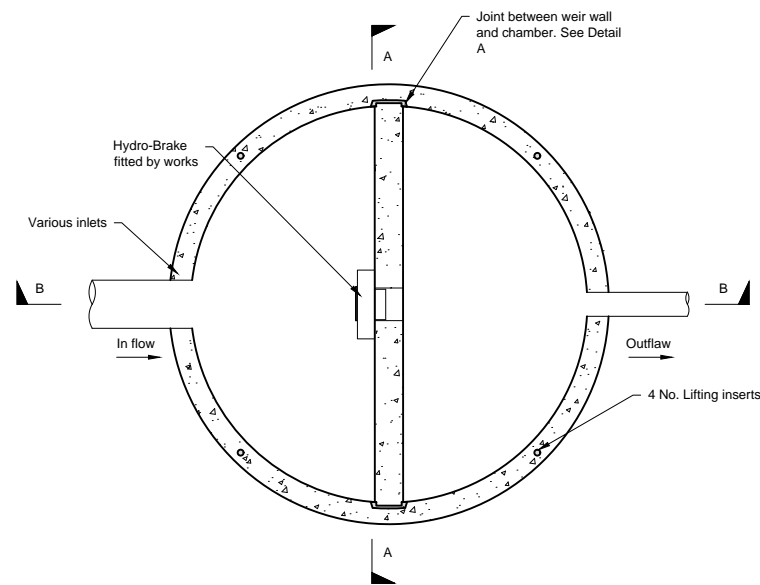
COVER SLAB PLAN



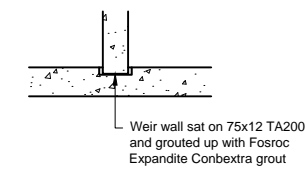
ELEVATION ON WEIR WALL



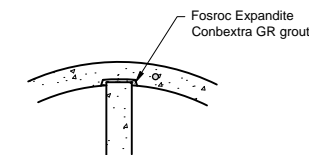
SECTION B-B



CHAMBER PLAN



DETAIL B



DETAIL A

Notes:
Benching to be completed on site by contractor.

VORTEX FLOW CONTROL WEIR WALL CHAMBER

TABLE 1

Flow Control Chamber No.	Flow Control Product Reference	Flow Rate (l/s)	Head (m)	Min. Sump Depth (mm)	Weir Wall Soffit Level (m)	Manhole Diameter (mm)
SAFC	MD-SHE-0071-2100-0865-2100	2.1	0.865	305	47.85	1500
SBFC	MD-SHE-0064-2100-1400-2100	2.1	1.400	300	49.72	1500
SCFC	MD-SHE-0073-2300-0965-2300	2.3	0.965	315	47.77	1500

P01	16.02.21	AC	KB	Issued for Information
Rev	Date	Drawn	Eng	Amendment

P01	16.02.21	AC	KB	Issued for Information
Rev	Date	Drawn	Eng	Amendment

LIDDELL ROAD - PHASE 2

BELOW GROUND DRAINAGE DETAILS SHEET 6

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

Drawn	AH	Eng	KB
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Scales	1:20 at A1	1:40 at A3
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Drawing No	29100 / 6106	Rev	P01
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Doc Ref.	29100-PAM-ZZ-XX-DR-C-6106
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Manhole / IC	Cover Level m	Invert Level m	Chamber Type	Chamber depth (m)	Internal Chamber Size	Cover Clear Opening and Cover Grade	Notes To Building Regulations Part H unless noted
FA1	48.100	46.950	PC IC	1.150	1000x675 Rectangular Precast Concrete Blocks	1000x675 Rectangular BS EN 124 CLASS B125	Internal sealed access unit Recessed cover finish to match adjacent
FA2	48.080	46.550	Plastic RAIC	1.530	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
FA3	49.300	48.425	PC IC	0.875	1200x750 Rectangular Precast Concrete Blocks	1200x750 Rectangular BS EN 124 CLASS B125	Internal sealed access unit Recessed cover finish to match adjacent
FA4	49.300	48.280	PC IC	1.020	1000x675 Rectangular Precast Concrete Blocks	1000x675 Rectangular BS EN 124 CLASS B125	Internal sealed access unit Recessed cover finish to match adjacent
FA5	50.100	47.980	PC IC	2.120	1200x750 Rectangular Precast Concrete Blocks	600x600 cover BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent
FB1	50.400	48.900	PC IC	1.500	1200x750 Rectangular Precast Concrete Blocks	600x600 cover BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent Internal sealed access unit
FB2	50.400	48.855	PC IC	1.545	1200x750 Rectangular Precast Concrete Blocks	600x600 cover BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent Internal sealed access unit
FB3	50.400	48.750	Plastic RAIC	1.650	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Internal sealed access unit Recessed cover finish to match adjacent
FB4	49.890	48.680	Plastic RAIC	1.210	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
FC1	48.325	47.730	PC IC	0.595	750x600 Rectangular Precast Concrete Blocks	750x600 Rectangular BS EN 124 CLASS B125	Internal sealed access unit Recessed cover finish to match adjacent
FC2	48.325	47.650	PC IC	0.675	750x600 Rectangular Precast Concrete Blocks	750x600 Rectangular BS EN 124 CLASS B125	Recessed cover finish to match adjacent
FC3	48.100	47.470	Plastic IC	0.630	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC4	48.350	47.600	Plastic IC	0.750	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC5	48.470	47.550	Plastic IC	0.920	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC6	48.325	47.600	Plastic IC	0.725	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC7	49.150	48.380	Plastic IC	0.770	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC8	49.100	48.300	Plastic IC	0.800	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC9	49.450	48.380	Plastic IC	1.070	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC10	49.150	48.300	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC11	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC12	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC13	49.400	47.125	TYPE 2 Manhole	2.275	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent
FC14	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC15	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC16	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC17	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC18	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC19	49.300	48.600	Plastic IC	0.700	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC20	49.450	48.600	Plastic IC	0.850	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
FC21	49.180	46.780	TYPE 2 Manhole	2.400	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent
FC22	49.180	44.350	TYPE 1 Manhole	4.830	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Ladder required Recessed cover finish to match adjacent

FOUL WATER MANHOLE SCHEDULE

Manhole / IC	Cover Level m	Invert Level m	Chamber Type	Chamber depth (m)	Internal Chamber Size	Cover Clear Opening and Cover Grade	Notes To Building Regulations Part H unless noted
SA1	49.300	48.425	PC IC	0.875	600x450 Rectangular Precast Concrete Blocks	600x450 Rectangular BS EN 124 CLASS B125	Recessed cover finish to match adjacent
SA2	51.000	49.650	Plastic RAIC	1.350	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SA3	50.890	48.195	PC IC	2.695	1200x750 Rectangular Precast Concrete Blocks	600x600 cover BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent
SA4	50.890	48.085	TYPE 2 Manhole	2.805	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent
SA5	47.850	47.129	Plastic IC	0.721	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SA6	47.950	46.990	PC IC	1.410	1200x750 Rectangular Precast Concrete Blocks	1200x600 double cover BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent 450mm Deep sump catch pit
SA7	48.050	46.840	Plastic RAIC	1.210	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SB1	50.400	49.650	Plastic IC	0.750	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SB2	49.900	48.600	Plastic RAIC	1.300	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SB3	49.900	48.550	Plastic RAIC	1.350	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SB4	49.800	48.050	TYPE 2 Manhole	2.200	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent 450mm deep sump catch pit
SB5	50.800	49.650	Plastic IC	1.150	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SB6	50.770	49.400	TYPE 2 Manhole	1.820	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent 450mm deep sump catch pit
SC1	49.450	48.750	Plastic IC	0.700	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SC2	49.450	48.583	Plastic IC	0.867	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SC3	49.450	48.421	PC IC	1.029	600x450 Rectangular Precast Concrete Blocks	600x450 Rectangular BS EN 124 CLASS B125	Recessed cover finish to match adjacent
SC4	49.150	48.199	Plastic IC	0.951	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SC5	48.325	47.468	Plastic IC	0.857	600mm Polypropylene Ring	600 Diameter BS EN 124 CLASS B125	150mm concrete plinth under cover
SC6	48.325	47.218	TYPE 2 Manhole	1.557	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent 450mm deep sump catch pit
SC7	49.180	48.500	Plastic IC	0.680	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SC8	49.450	48.300	Plastic IC	1.150	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SC9	49.450	48.190	Plastic RAIC	1.260	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SC10	49.450	48.080	Plastic RAIC	1.370	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SC11	49.250	48.000	Plastic RAIC	1.250	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SC12	49.100	47.750	Plastic RAIC	1.350	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SC13	48.690	47.450	Plastic RAIC	1.240	450mm Polypropylene Ring	350 diameter restrictor OSMA 4D945 Square Recessed	Reduced access inspection chamber Recessed cover finish to match adjacent
SC14	48.470	46.875	TYPE 2 Manhole	2.045	1200 diameter precast concrete rings	600x600 eccentric BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent 450mm deep sump catch pit
SC15	48.325	47.175	Plastic IC	1.150	450mm Polypropylene Ring	450 diameter OSMA 4D945 Square Recessed	Recessed cover finish to match adjacent
SAFC	48.100	46.885	TYPE 2 Manhole	1.520	1500 Diameter Precast Concrete Rings	Double 600x600 cover BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent Hydrobrake unit with min 305mm deep sump
SBFC	50.045	47.950	TYPE 2 Manhole	2.395	1500 Diameter Precast Concrete Rings	Double 600x600 cover BS EN 124 CLASS B125	Steps Required Recessed cover finish to match adjacent Hydrobrake unit with min 300mm deep sump
SCFC	48.050	46.785	TYPE 2 Manhole	1.580	1500 Diameter Precast Concrete Rings	Double 600x600 cover BS EN 124 CLASS D400	Steps Required Recessed cover finish to match adjacent Hydrobrake unit with min 315mm deep sump

SURFACE WATER MANHOLE SCHEDULE

NOTE: LANDSCAPE ARCHITECT TO CONFIRM ALL COVER LEVELS. ALL INTERNAL MANHOLES TO BE RECESSED, DOUBLE SEALED AND BOLTED

NOTES :

- This drawing is to be read in conjunction with all relevant Architect's, Engineer's and specialists' drawings and specifications.
- Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check that this drawing has been printed to the intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
- Health & Safety : All specific drawing notes are to be read in conjunction with the project "Information Pack" and "Site Rules".
- For general notes refer to Drawing No. 29100 / GN02.

P02	23.08.21	AC	KB	Issued for Information
P01	16.02.21	AC	KB	Issued for Information
Rev	Date	Drawn	Eng	Amendment

LIDDELL ROAD - PHASE 2

ACCESS CHAMBERS SCHEDULES

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

Drawn	WS	Eng	KB
Scales	N/A		
Drawing No	Rev		
29100 / 6200	P02		
Doc Ref.	29100-PAM-ZZ-XX-DR-C-6200		

CIVILS

DRAINAGE

All drainage design and installation to be carried out in accordance with the following:
BS EN 752: Drain and sewer systems outside buildings.
BS EN 12056: Gravity drainage systems inside buildings.
Building Regulations - Part H.
Design and Construction Guidance (Version 2.0)
Site surface water drainage has been designed based on the levels and grades shown on the Architect's / Landscape Architect's drawings.

MANHOLES & INSPECTION CHAMBERS

Concrete manholes / inspection chambers by Milton Precast (or similar approved).
Polypropylene inspection chambers by Wavin (or similar approved).

PIPES

Pipes to be cast iron within building footprint and vitrified clay externally as R12 Specification
All pipes with cover more than 600 in external non-trafficked areas and 900 in external trafficked areas to be laid in class 'S' surround; for cover less than 600 and 900 respectively pipes to be laid in class 'Z' surround. If pipework is below an RC slab, Class Y or W surround should be used.

All pipes under foundations to be laid in Class Z surround.
The initial below ground lateral/branch pipes shall be nominal 100mm diameter and laid no flatter than 1:40 for foul and 1:60 for surface water uno. Where necessary, to avoid clashes, lateral connections may be laid to nominal falls and ramp at 45 degrees to manhole invert or pipe junction.

Selected fill for backfilling shall consist of uniform readily compactible as-dug material, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve.

Rocker pipe lengths to be 600mm maximum.

All bends in pipework shall be long radius.

Where branch pipes are to connect directly onto a main run provide above ground rodding access at head of branch run and:

When connecting 100 or 150 diameter branches to a main run of 300 diameter or larger use a preformed saddle fitting.

Otherwise connections shall be made with a preformed oblique junction swept in the direction of flow.

All gullies to be trapped and roddable.

DISUSED PIPEWORK

Confirm pipework is no longer in use before abandoning / demolishing.
All pipework within new building envelope to be demolished, should be removed and replaced with clean fill material.

ATTENUATION

The attenuation tanks have been designed for a 1 in 100 year storm event with a 40% allowance for climate change.

The Geocellular units shall be installed strictly in accordance with the manufacturer's recommendations and installed by a specialist. The constructed conduits shall be surrounded with a suitable impermeable geomembrane before carefully backfilling with material approved by the Civil Engineer.

Silt traps should be provided at each connection to the modular units. An optional access shaft can be provided for maintenance at the centre of each tank.

Vent pipes should be provided in accordance with the manufacturer's specification.

CONSTRUCTION

The Contractor shall allow for the temporary and permanent support and diversion works as necessary, to all existing services to the satisfaction of the Public Utilities.

Before starting work on the pump chamber, or placing orders for the pump, sump, cover or any other element of the design associated with the pumps, the Contractor shall:

The Contractor should carry out a drainage CCTV survey after completion of private pipework to demonstrate that the constructed drainage is in accordance with the design and specification clause R12/971. For adoptable pipework allow for drainage CCTV survey by others in accordance with specification clause R12/976.

SETTING OUT

All levels and dimensions shall be verified on site before the start of any works.

All FWP/RWP and gully locations are shown as indicative only. Architect/Landscape Architect to confirm all: Cover levels, FWP/RWP & gully locations and termination positions of vent pipes.

Landscape layout, and finished levels to be confirmed by Architects / Landscape Architect. The Contractor is to co-ordinate manhole positions and levels with landscape drawing requirements in hard landscaped areas to tie-in with the finishes proposed, i.e. block pavours & paving.

Co-ordinates given are "guide" positions of the centre of cover opening. Positions of inspection chambers may require manual adjustment on site due to confinement and congestion of pipe runs.

The Contractor is to position cover slabs/manhole openings to allow access over benching from the bottom of ladder/step iron rungs.

Manhole covers shall be set to same level and fall as adjacent ground.

Manhole to manhole runs should be kept straight and not be extended in length without reference to the Civil Engineer.

SERVICES

All connections to existing drainage to be confirmed on receipt of condition survey.

The location, size and depth of all existing drains/sewers and services shall be established by the Contractor before the start of works on site.

Details of existing and public sewers to be taken from relevant Asset Maps, Water Authority, CCTV & Site Surveys.

ROADS

CBR tests are to be carried out by the Contractor in-situ and at the proposed formation level, before final design and construction. This is required to determine depths of sub-base and capping material. Allow 5 working days for issue of updated details after CBR tests results...

Surface course, binder course and base course to be in accordance with BS EN 13108. Sub-base to be accordance with the specification for Highway Works, Series 800.

Sub-base Type 1 granular material to have minimum CBR of 30%.

Capping material to be in accordance with the Specification for Highway Works, Series 600.

Capping material to have CBR of 15%.

Formation to be trimmed and rolled to Specification for Highway Works, Series 600 before laying pavement material.

Road formation to be checked for soft spots before laying pavement materials. All soft spots to be removed and replaced with granular material in accordance with Specification for Highway Works, Series 600.

All tolerances for pavement layers in accordance with Specification for Highway Works, Series 700.

All material within 450mm of ground level to be non frost susceptible.

All pavement materials damaged by construction traffic are to be repaired before replacing full pavement layers.

All kerbs to be laid in accordance with BS 7533-6.

P01	16.09.21	WS	KB	Issued for Information

Rev	Date	Drawn	Eng	Amendment
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LIDDELL ROAD - PHASE 2

GENERAL NOTES

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

Drawn	WS	Eng	KB
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Scales @A1

Drawing No	Rev
29100/GN02	P01

Doc Ref.
29100-PAM-ZZ-XX-DR-C-GN02

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